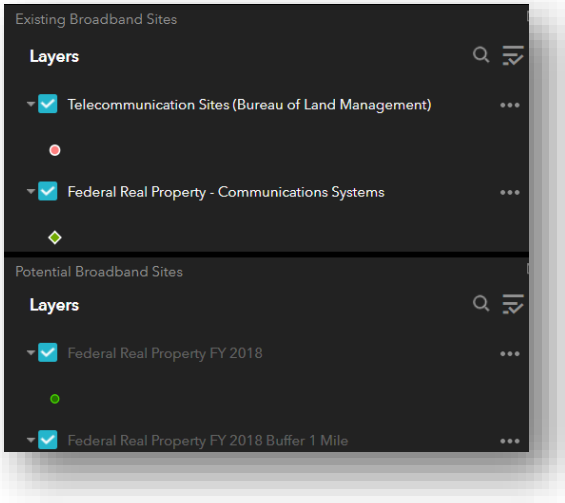
**Telecommunication Infrastructure Sites and Cases – User Guide**

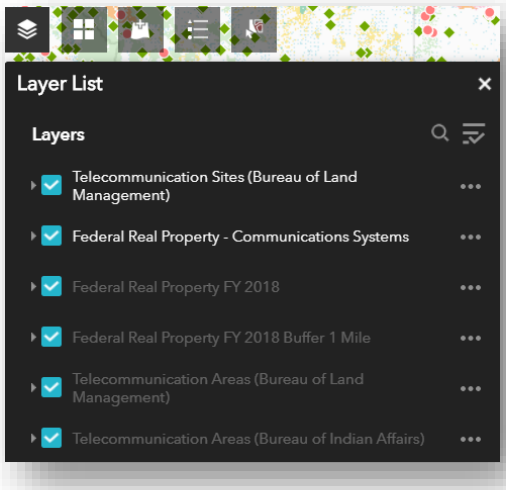
Washington DC Office of Energy, Minerals, and Realty

The Telecommunication Infrastructure Sites and Cases web application contains tools and map layers derived from GIS data from the Bureau of Indian Affairs, the Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, General Services Administration, and National Park Service.

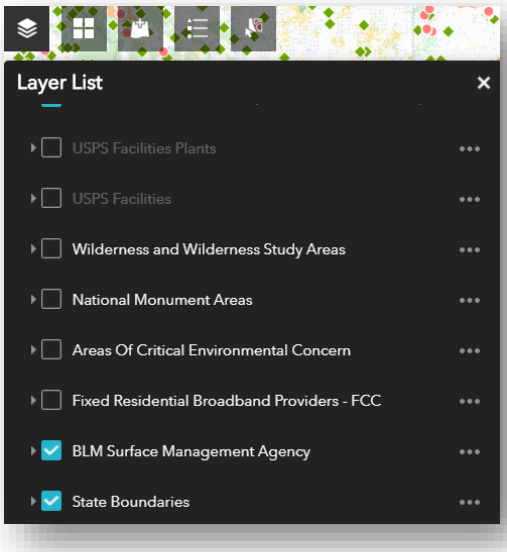
The focus map layers contained in this web application are categorized into Existing or Potential Telecommunications Sites. The Existing Broadband Sites layers are previously identified telecommunications sites derived from a compilation of GIS data and a subset of properties from the Federal Real Property GSA dataset that have a property use type of 'Communications Systems'. The Potential Broadband Sites layers are all properties contained in the Federal Real Property GSA dataset and a 1 mile buffer layer around those properties that intersect federal land.
These layers appear docked on the left side of the map viewer and in the **Layer List** widget.

These layers are scale dependent so users should zoom in to a specific region to view the points. Layers that appear grey in the **layer List** will become active upon zooming in. Once zoomed to the appropriate scale, the layer name will appear white.




The web application also contains reference map layers displaying boundaries of specialized land use that could impact the development of telecommunication sites.



The Existing Broadband Sites layers are:

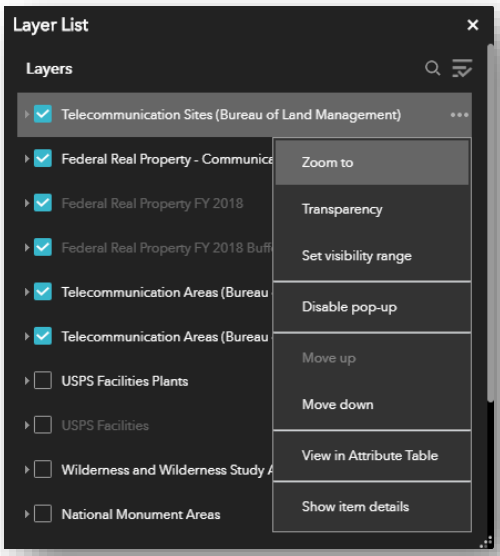
1. Telecommunication Sites (Bureau of Land Management): This layer was derived from GIS data from the Bureau of Indian Affairs, the Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, General Services Administration, and National Park Service.
2. Federal Real Property - Communication systems: This layer is a subset of the Federal Real Property (FRPP) Fiscal Year 2018 layer. It only displays properties with a Real Property Use value of 'Communication systems'.

The Potential Broadband Sites layers are:

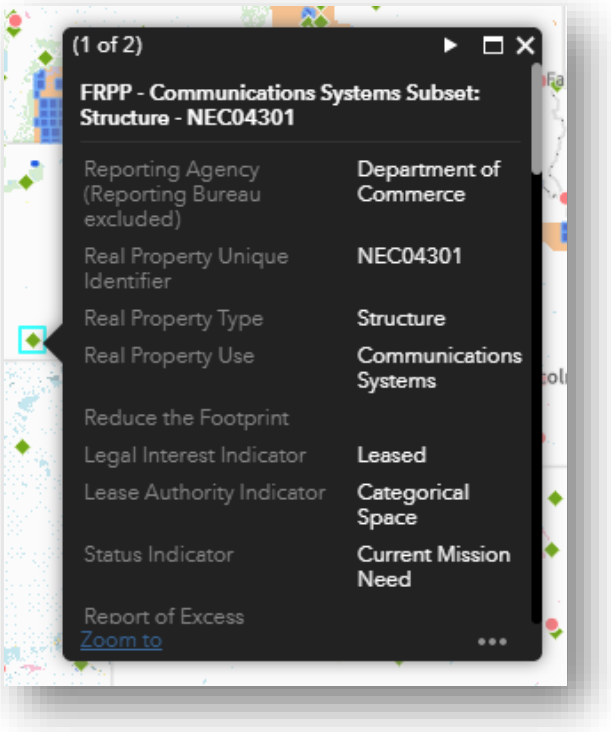
1. Federal Real Property FY 2018: This layer depicts the GSA Federal Real Property for fiscal year 2018. It has been intersected with BLM National Administrative Field Office units to capture attribute data associated with the BLM field office that contains the property point.
2. Federal Real Property FY 2018 Buffer 1 Mile. This layer is a 1 mile buffer of the Federal Real Property FY 2018 layer. It contains a related table displaying the Surface Management Agency (SMA) codes and acreage that intersect the buffer.

## *MAP ACTIONS*

For map actions associated with a layer, open the **Layer List** widget and click the ellipses to the right of the layer name. Helpful actions include: ***Zoom to*** which zooms the map display to the extent of the layer, ***Transparency*** which allows users to make a layer more or less transparent, ***View in Attribute Table*** which opens the attribute table for the layer, and ***Show item details*** which opens a new browser window to an item description page in ArcGIS Online or a REST service description page.

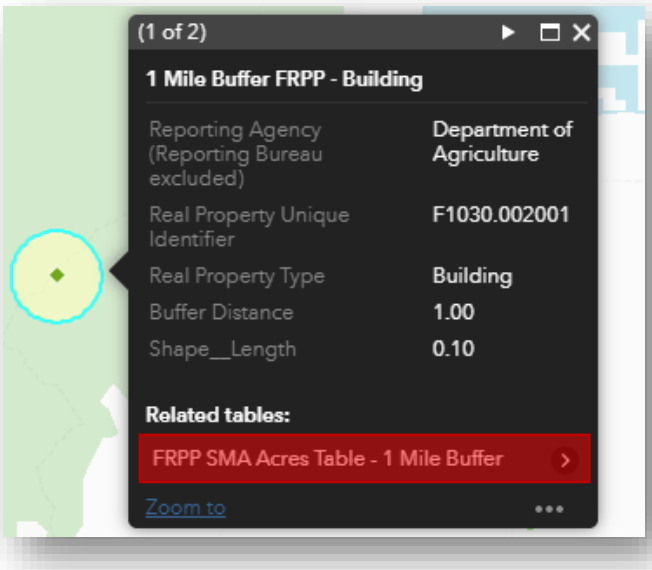


Users can display additional information about a layer by viewing the pop-up information in the map viewer. Turn on the layer of interest in the **Layer List**. In the map viewer, click on the point, line, or polygon geometry for the layer. A pop-up box will appear with the layer name and attributes.

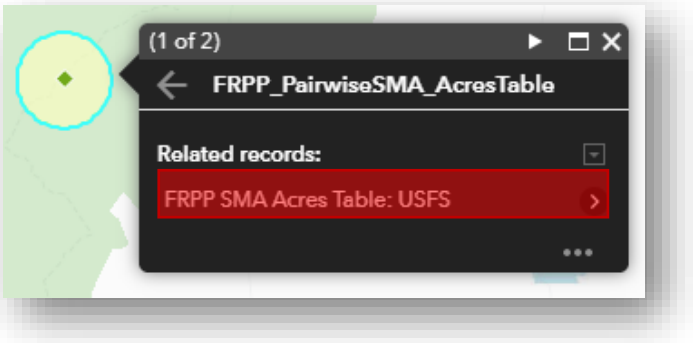


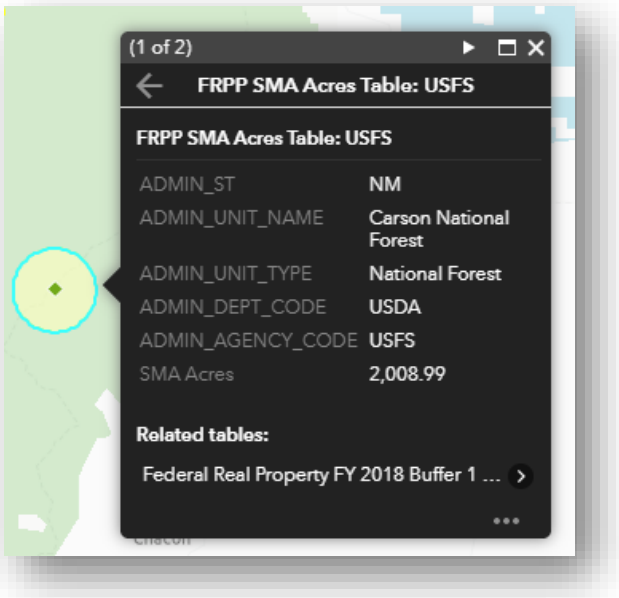

To view the related SMA (federal land by surface management agency) acreage in a 1 mile buffer around a FRPP point, click on the buffer geometry to launch an informative pop-up.

Click on the FRPP SMA Acres Table – 1 Mile Buffer link to open the related records.



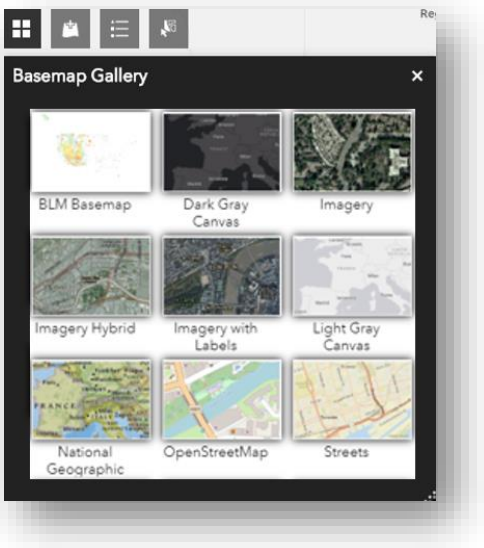
Click on the related record to view the SMA information and acreage.



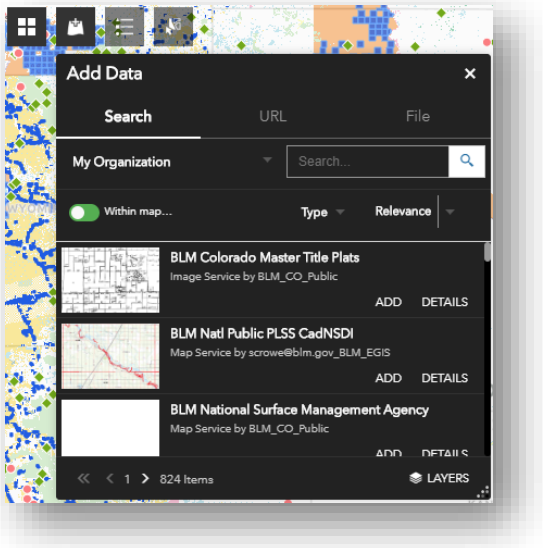
## *WIDGETS*

The **Basemap** widget allows the user to change the basemap in the map viewer.

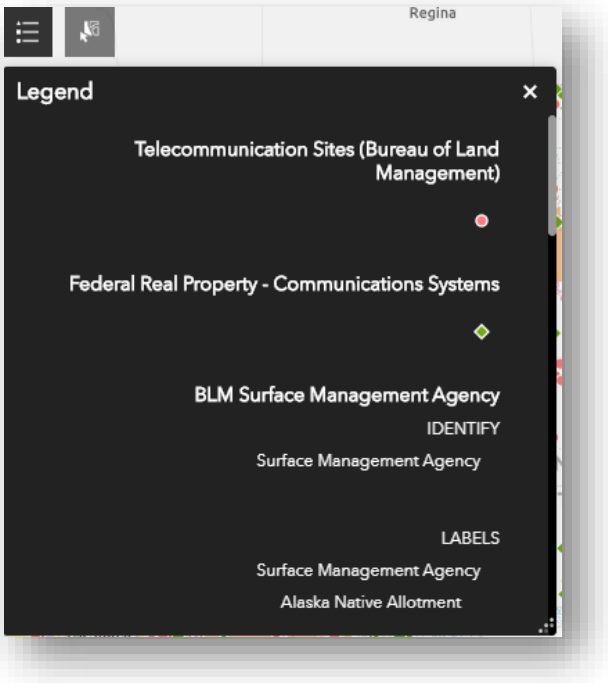



The **Add Data** widget allows users to add their own data to the map viewer. Users can search and add data from:

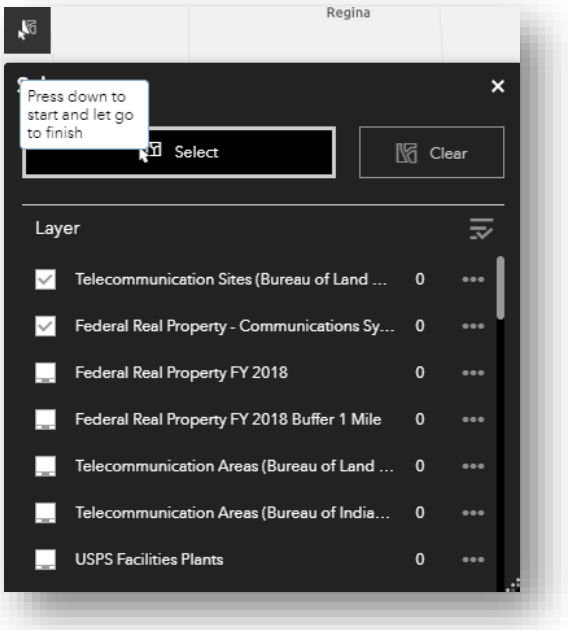
- ArcGIS Online
- URL (Map or Feature Services)
- Files (Zipped Shapefile, CSV, KML)



The **Legend** widget allows users to view the symbology for the layers that are turned on in the **Layer List** widget. The legend updates dynamically as the layers are turned On and Off in the **Layer List** Widget.




The **Select** widget allows users to select certain features from a layer. The select widget is especially useful for selecting features and viewing the attribute table for only those selected features. To select features open the widget and click the check box next to the layer(s) you want to select from. The selected features will be highlighted Cyan in the map viewer and the Select widget will show the number of records selected in the layer. Click the ellipses next to the layer to view map actions. Click the View in Attribute Table to view the selected record in a table format.

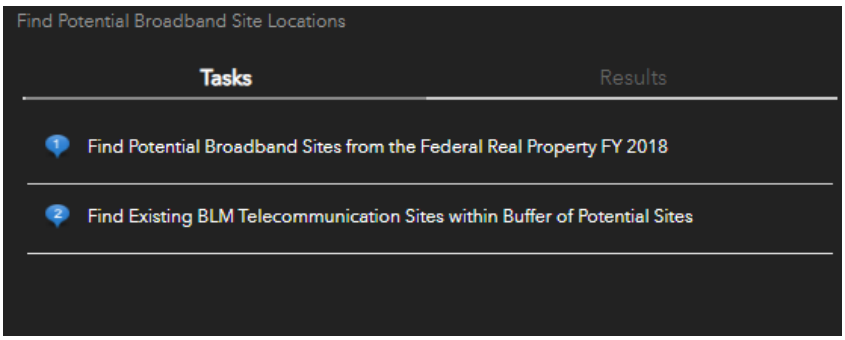


## *QUERIES*

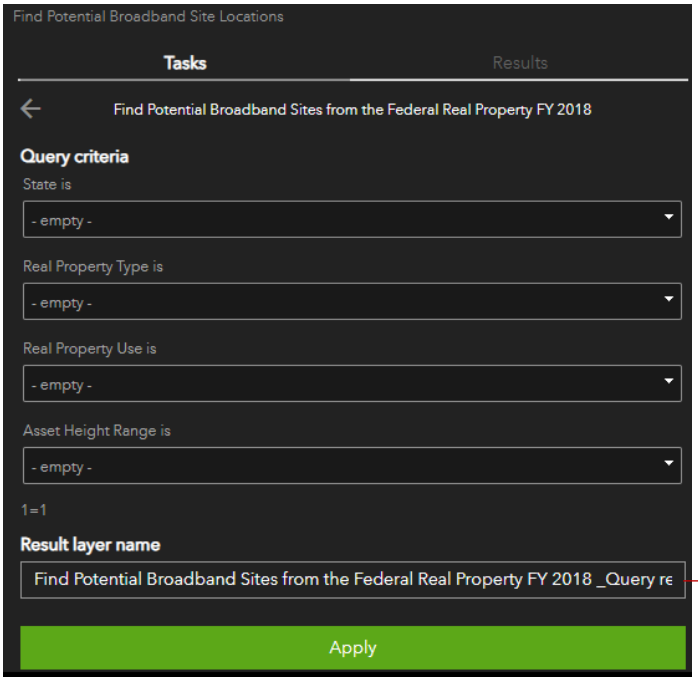
Use the ***Find Potential Broadband Site Locations*** tool docked on the left side of the map viewer to query sites from the Federal Real Property (FRPP) Fiscal Year 2018 data layer. Users can:

1. Identify sites based on an attribution query and create a subset of the FRPP
2. Run a spatial query to select existing telecommunications within a given distance of the FRPP subset.

Users should run the first attribute query *Find Potential Broadband Sites from the Federal Real Property FY 2018* to create a subset of the data that matches the user inputted criteria.

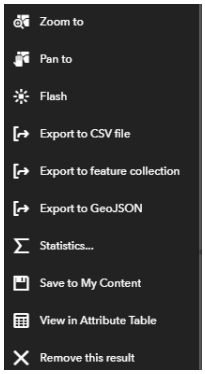



Users can query sites in the Tasks tab based on the following attributes:



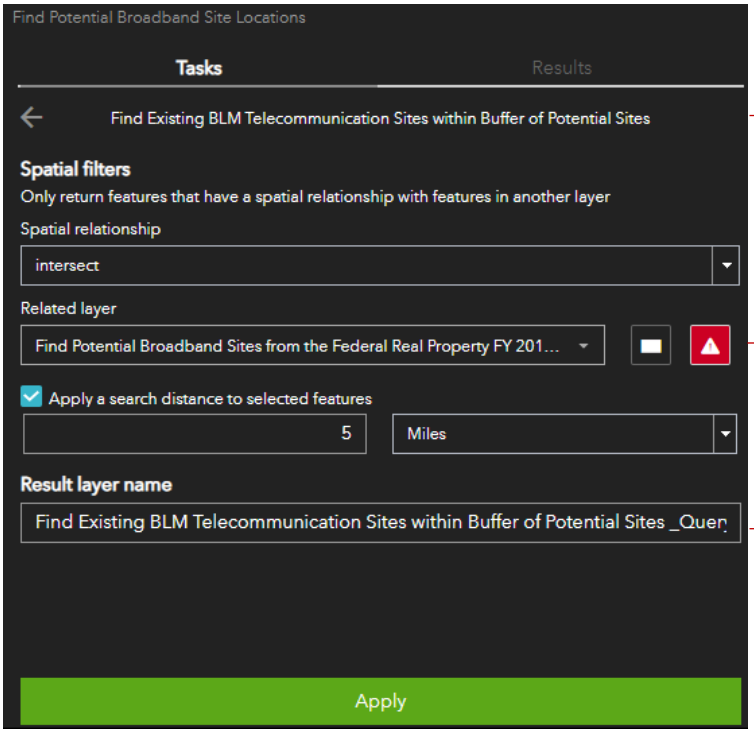

The resulting layer will appear in the Results tab and the Layer List where users can interact with the new layer.

Select the ellipses to the right of new layer name in the Results tab or the layer list to open an action dialogue box. The following actions may be useful to the end user:



Click Apply to zoom to the selected records that match the input criteria.

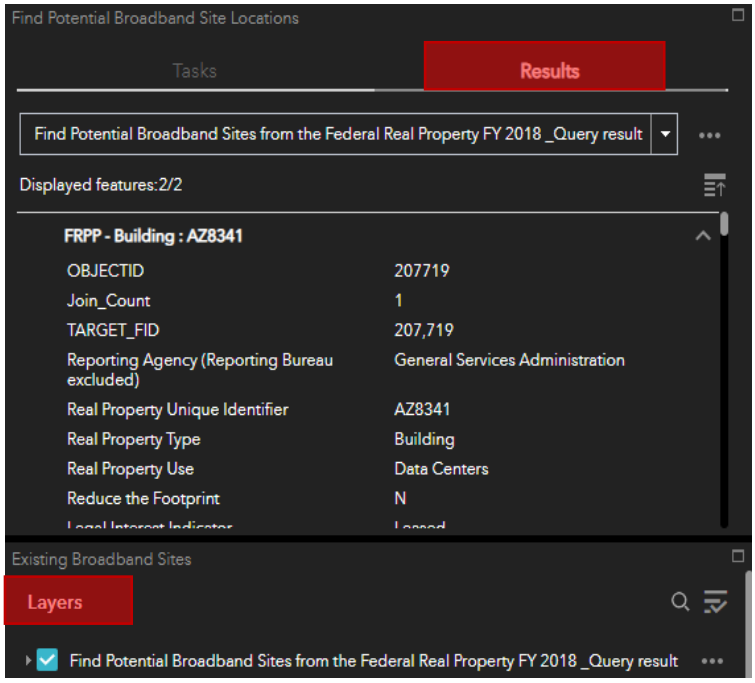
Users should run the second spatial query *Find Existing BLM Telecommunication Sites within Buffer of Potential Sites* to select existing BLM telecommunications sites that fall within a buffer of the subset layer produced in the first query.




This query will always select records from the Telecommunications Sites (Bureau of Land Management) Layer

Select the layer generated from the first query as the related layer input.

The resulting layer will appear in the Results tab and the Layer List where users can interact with the new layer.

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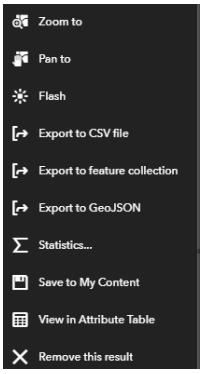
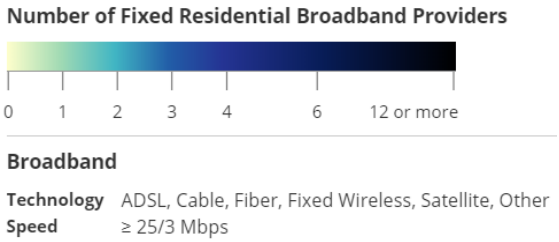



## SUPPLEMENTAL LAYERS

The web application also contains reference map layers displaying boundaries of specialized land use that could impact the development of telecommunication sites.

1. USPS Facilities Plants: USPS Plants joined with Congressional Districts
2. USPS Facilities: USPS Facilities joined with Congressional Districts
3. Wilderness and Wilderness Study Areas: Wilderness Study Areas (commonly known as WSAs) are places that have wilderness characteristics; that is a minimum size, naturalness, and outstanding opportunities for recreation which make them eligible for designation as wilderness.
4. National Monument Areas: Polygon features for the NLCS National Monuments, National Conservation Areas and Similar Designations.
5. Areas of Critical Environmental Concern: Areas of Critical Environmental Concern are designated areas that need special attention for environmental degradation

6. Fixed Residential Broadband Providers – FCC: Provides a visualization of the residential fixed broadband deployment data collected on FCC Form 477. The following legend explains the symbology present in this web application. Please see the following link for more information: https://broadbandmap.fcc.gov/#/about




7. BLM Surface Management Agency: The service depicts Federal land for the United States and classifies this land by its active Federal surface managing agency below the scale scheme level 14 (~1:36K) for efficiency. The Surface Management Agency (SMA) covers the continental United States, Alaska, Hawaii, Puerto Rico, Guam, American Samoa and the Virgin Islands. A Federal SMA agency refers to a Federal agency with administrative jurisdiction over the surface of Federal lands.
8. State Boundaries: The State Boundaries layer is derived from Census Bureau GIS data.